

**T02D04 – Flame Test Activity**

Name \_\_\_\_\_

**Aim:** To identify five unknown chemicals based on their diagnostic emission spectrum when excited in the presence of a flame.

**Chemicals:** potassium carbonate, copper (II) chloride, barium chloride, strontium chloride, sodium hydrogen carbonate

**Materials:** 1M solutions of the above mentioned chemicals, Bunsen burner, nichromium wire, wood stir-stick, diffraction lens.

**How to identify:** Research the internet, being sure site sources, for literature values of the emission spectrum of each of the elements tested.

**Procedure:** Using a Nichromium wire, first clean with strong acid (hydrochloric) by dipping in the solution and holding in the Bunsen burner flame for several seconds. You must complete this process between every solution and trial. If the Nichromium wire is ineffective, wood stir-sticks may be used in their place (be sure to soak for several minutes in each solution. Hold each solution in the Bunsen burner flame and make record of the visible light observed. With a partners help you may also use a diffraction lens (be sure to have them burn the chemical while you observe – do not attempt to burn and observe yourself).

**Data:** Create your own data table that includes your observations in words or illustrations (of both methods if completed), literature values, and possible images of literature values (being sure to site resources).

This is not assessed on an IB scale